

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An injection device having a propulsion system comprising a container, a re-usable pressure generating mechanism and a primary source of potential energy for propelling a fluid with sufficient pressure through an orifice to create a jet enabling subcutaneous or intracutaneous delivery of the fluid, the source of potential energy comprising a compressible substance put under pressure within the container by the pressure generating mechanism, whereby said potential energy is substantially a compression energy of said substance, and further comprising a separating wall in the container enclosing the compressible substance in a rear chamber of the container, the separating wall comprising a valve that can be opened to enable the compressible substance to flow into a front chamber and transmit pressure to said fluid to be injected.
2. (Previously Presented) The device according to claim 1, wherein the compressible substance has a volumetric compressibility (dV/V) at said pressure within the container greater than 1.2 times the volumetric compressibility of water.
3. (Previously Presented) The device according to claim 1, wherein the compressible substance is visco-elastic liquid or soft matter.
4. (Previously Presented) The device according to claim 3, wherein the compressible substance belongs to the family of polysiloxanes.
5. (Currently Amended) The device according to claim 2, An injection device having a propulsion system comprising a container, a re-usable pressure generating mechanism and a primary source of potential energy for propelling a fluid with sufficient pressure through an orifice to create a jet enabling subcutaneous or intracutaneous delivery of the fluid, the source of potential energy comprising a compressible substance having a volumetric compressibility

~~(dV/V) at said pressure within the container greater than 1.2 times the volumetric compressibility of water, wherein the compressible substance being is an elastic solid, wherein the compressible substance is put under pressure within the container by the pressure generating mechanism, whereby said potential energy is substantially a compression energy of said substance.~~

6. (Previously Presented) The device according to claim 5, wherein the solid is vulcanized silicon rubber.

7. (Previously Presented) The device according claim 1, wherein the volume of compressible substance is reduced by displacing a piston of the pressure generating mechanism.

8. (Canceled)

9. (Previously Presented) The device according to claim 1, wherein the liquid to be injected is received in a single-use capsule or ampoule insertable into the container of the propulsion system which forms a unit.

10. (Previously Presented) The device according to claim 9, wherein the compressible substance is permanently mounted in the container.

11. (Previously Presented) The device according to claim 9, wherein the compressible substance is mounted in the capsule.

12. (Previously Presented) The device according to claim 9, wherein said container comprises a separable portion, such as a cap, to open the container portion and enable the ampoule or capsule to be mounted therein.

13. (Previously Presented) The device according to claim 1, further comprising retaining means comprising a plug for maintaining the pressure of the compressible substance in the container prior to use by closing an orifice or a passage.

14. (Previously Presented) The device according to claim 13, wherein the plug is mechanical plug that may be displaced to liberate said passage or orifice.
15. (Previously Presented) The device according to claim 9, wherein the ampoule comprises a flexible or deformable wall fixed to the nozzle portion to contain the fluid to be injected therein.
16. (Previously Presented) The device according to claim 15 , wherein a plug is arranged in the nozzle portion.
17. (Previously Presented) An injection device having a propulsion system comprising a container, a re-usable pressure generating mechanism and a primary source of potential energy for propelling a fluid with sufficient pressure through an orifice to create a jet enabling subcutaneous or intracutaneous delivery of the fluid, the source of potential energy comprising a compressible substance put under pressure within the container by the pressure generating mechanism, whereby said potential energy is substantially a compression energy of said substance, wherein the liquid to be injected is received in a single-use capsule or ampoule insertable into the container of the propulsion system which forms a unit, the ampoule comprising a flexible or deformable wall fixed to the nozzle portion to contain the fluid to be injected therein, a plug is arranged in the nozzle portion, wherein the plug is made of high tensile strength wire.
18. (Previously Presented) An injection device having a propulsion system comprising a container, a re-usable pressure generating mechanism and a primary source of potential energy for propelling a fluid with sufficient pressure through an orifice to create a jet enabling subcutaneous or intracutaneous delivery of the fluid, the source of potential energy comprising a compressible substance put under pressure within the container by the pressure generating mechanism, whereby said potential energy is substantially a compression energy of said substance, the injection device further comprising a liquid supply system having a liquid supply reservoir interconnectable with the propulsion system.

19. (Previously Presented) An injection device having a propulsion system comprising a container, a re-usable pressure generating mechanism and a primary source of potential energy for propelling a fluid with sufficient pressure through an orifice to create a jet enabling subcutaneous or intracutaneous delivery of the fluid, the source of potential energy comprising a compressible substance put under pressure within the container by the pressure generating mechanism, whereby said potential energy is substantially a compression energy of said substance, and further comprising a liquid supply reservoir wherein the liquid supply reservoir is interconnectable with the propulsion system through a valve controlling the blocking an opening of the nozzle orifice.
20. (Previously Presented) The device according to claim 19, wherein the valve comprises a cylindrical portion comprising a first passage therein for interconnecting the liquid supply container with the propulsion system in a refilling position of the valve, and a second passage for interconnecting the propulsion system with the nozzle orifice in an actuated position of the valve.
21. (Previously Presented) The device according to claim 18, wherein the liquid supply system comprises a feed mechanism for dosing the supply of the liquid, the feed mechanism and the pressure generating mechanism being driven by motors controlled by an electronic control system.
22. (Currently Amended) An injection device having a propulsion system comprising a container, a re-usable pressure generating mechanism, a primary source of potential energy for propelling a fluid with sufficient pressure through an orifice to create a jet enabling subcutaneous or intracutaneous delivery of the fluid, the source of potential energy comprising a compressible substance put under pressure within the container by the pressure generating mechanism, whereby said potential energy is substantially a compression energy of said substance, and The device according to claim 1, wherein the propulsion system comprises a secondary source of potential energy generating a lower pressure than the primary source of potential energy.
23. (Currently Amended) The device according to claim 1-22, wherein the secondary source of potential energy comprises a spring.

24. (Previously Presented) The device according to the claim 22 wherein the secondary source of potential energy comprises a gas in the propulsion system container.
25. (Previously Presented) An injection device having a propulsion system comprising a container, a re-usable pressure generating mechanism and a primary source of potential energy for propelling a fluid with sufficient pressure through an orifice to create a jet enabling subcutaneous or intracutaneous delivery of the fluid, the source of potential energy comprising a compressible substance put under pressure within the container by the pressure generating mechanism, whereby said potential energy is substantially a compression energy of said substance, the propulsion system further comprising a secondary source of potential energy generating a lower pressure than the primary source of potential energy, wherein the secondary source of potential energy comprises a pair of opposed magnets.